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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,180	10/20/2003	Johann Epple	AGCO/LTD3	2708
6980	7590	01/13/2006	EXAMINER	
TROUTMAN SANDERS LLP 600 PEACHTREE STREET, NE ATLANTA, GA 30308			BROWN, DREW J	
			ART UNIT	PAPER NUMBER
			3616	

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/689,180	Applicant(s) EPPLE ET AL.	
	Examiner Drew J. Brown	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 5-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 3, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krude (U.S. Pat. No. 4,705,128) in view of Ballamy et al. (U.S. Pat. No. 2,418,744) and Middlebrook (U.S. Pat. No. 6,092,511).

With respect to claim 13, Krude discloses a vehicle driveline and suspension arrangement comprising a hollow chassis which extends longitudinally relative to the vehicle and which contains a driveline for transmitting power to a pair of wheels 82 suspended from the chassis, each wheel being mounted on a swinging arm 90 which is pivoted (102 and 104) at one end on the chassis and which extends longitudinally relative to the chassis, the other end of each swinging arm carrying a wheel support 96 and final drive 98 for the respective wheel. A respective resilient suspension member 184 is connected at one end to the chassis and at the other end to each respective swinging arm. A drive shaft 76 extends transversely between each final drive and a gearbox which forms part of the driveline within the chassis, and each side of the drive shaft is substantially enclosed, and each swinging arm is guided via the pivot members 102, 104 on the chassis against lateral movement relative to the chassis during pivoting.

With respect to claim 2, the wheel support is integral with each respective swinging arm.

Although a drive shaft is disclosed, Krude does not disclose that the drive shaft is connected with its respective final drive and the gearbox via flexible couplings, or that the drive shaft comprises a pair of shaft halves slidable with respect to one another. Also, although Krude discloses that the drive shaft is partially enclosed by the wheel housing, it is not disclosed the the entire length of the drive shaft is enclosed.

Ballamy et al., however, does disclose a drive shaft 15 and 16 having shaft halves slidable with respect to one another, or telescopic (column 2, lines 41-43). The inboard end is connected by a flexible coupling (inner 18) to an output shaft of a gearbox 17, and the outboard end is connected by a flexible coupling (outer 18) to a wheel final drive.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Krude with the teachings of Ballamy et al. to have a telescoping drive shaft with flexible couplings so most of the lateral forces would be absorbed by the drive shaft instead of acting on the differential gear.

Middlebrook discloses that the drive shaft 24 is enclosed along its entire length via a tubular sleeve 54. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Krude with the teachings of Middlebrook to entirely enclose the drive shaft in order to provide greater safety and durability of the drive shaft (column 2, lines 6-7).

With respect to claim 3, Middlebrook also discloses that each swinging arm includes a housing 54 which encircles the respective drive shaft and extends towards the gearbox.

Art Unit: 3616

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krude in view of Ballamy et al. and Middlebrook, and further in view of Fukui (U.S. Pat. No. 4,669,559). Krude, as modified by Ballamy et al. and Middlebrook, discloses the claimed arrangement as discussed above but does not disclose that the wheel final drive includes a reduction gear. Fukui, however, does disclose a reduction gear 18 located within the wheel final drive. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Krude with the teachings of Fukui to have a reduction gear within the wheel final drive in order minimize torque acting on the drive shaft and also minimize the external dimensions of the drive shaft.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krude in view of Ballamy et al. and Middlebrook, and further in view of Matschinsky (U.S. Pat. No. 3,952,824). Krude, as modified by Ballamy et al. and Middlebrook, discloses the claimed arrangement as discussed above but does not disclose a wheel brake comprising a brake disc and a brake saddle mounted in the swinging arm housing which extends towards the gearbox, wherein the brake saddle is pivotable between active and inactive positions, and the housing includes a shutter covering an opening in the wall of the housing, wherein the brake is accessible through the shutter. Matschinsky does disclose a brake disc (fig. 5), a brake saddle 17, and a brake shutter 18. The brake saddle is pivotable through guide member 9 between active and inactive positions, wherein the shutter pivots to uncover an opening in the wall of the housing to the inactive position. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Krude with the

Art Unit: 3616

teachings of Matschinsky to use a brake saddle and shutter to facilitate the inspection and repair of the brake.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krude in view of Ballamy et al. and Middlebrook, and further in view of Fukui (U.S. Pat. No. 4,669,559). Krude, as modified by Ballamy et al. and Middlebrook, discloses the claimed arrangement as discussed above but does not disclose that a reduction gear for each wheel is mounted in the chassis. Fukui, however, does disclose a reduction gear 18 located within the wheel final drive, which is mounted in the chassis. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Krude with the teachings of Fukui to have a reduction gear mounted in the chassis in order minimize torque acting on the drive shaft.

Allowable Subject Matter

6. Claims 5-8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claim 13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew J. Brown whose telephone number is 571-272-1362. The examiner can normally be reached on Monday-Thursday from 7 a.m. to 4 p.m..


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Drew J Brown
Examiner
Art Unit 3616

DJB



DAVID R. DUNN
PRIMARY EXAMINER